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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/275,568	03/24/1999	MICHAEL C. PITMAN	YOR919980112US1	9918

7590 06/29/2005

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EXAMINER

LY, CHEYNE D

ART UNIT PAPER NUMBER

1631

DATE MAILED: 06/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/275,568

Applicant(s)

PITMAN ET AL.

Examiner

Cheyne D. Ly

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 September 2004. 10/28/04; 1/18/05; 4/25/05
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4-15 and 31-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4-15 and 31-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Applicants' arguments filed September 14, 2004 have been fully considered but they are not deemed to be persuasive. Rejections and/or objections not reiterated from previous office actions are hereby withdrawn. The following rejections and/or objections are either reiterated or newly applied. They constitute the complete set presently being applied to the instant application.
2. The addition of claims 31-35 has been acknowledged.
3. Claims 1, 4-15, and 31-35 are examined on the merits.

OBJECTION

4. The amendment filed September 14, 2004 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows:
 5. On page 2, Applicant has proposed to amend the specification to recite "herein incorporated by reference in their entirety" as directed to U.S. Patent Nos. 6,408,321 and 6,349,265. The proposed amendment has been objected to because, as originally filed, the instant specification (page 1) recites "herein incorporated by reference in their entirety" specifically directed to Provisional U.S. Patent Application No. 06/079,176. Therefore, the citation of "herein incorporated by reference in their entirety" as directed to U.S. Patent Nos. 6,408,321 and 6,349,265 is considered to be new matter.
6. Applicant is required to cancel the new matter in the reply to this Office Action.

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7. The Abstract, filed April 25, 2005, is enclosed in quotation marks. Applicant has been advised to remove said quotation marks and submit the new abstract alone on its own separate sheet of paper.

CLAIM REJECTIONS UNDER 35 U.S.C. § 112, SECOND PARAGRAPH

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 8, 9, and 12-14 are rejected under 35 U.S.C. § 112, Second Paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

10. This rejection is maintained with respect to claims 8, 9, and 12-14, as recited in the previous office action, mailed June 10, 2004.

11. Specific to claim 8, equation for solving $f(\hat{w})$ and line 3, the lack of definitions for the variable " \hat{w}^T " causes claim 8 to be vague and indefinite because said claim is unclear as to what parameters are represented by variable " \hat{w}^T " in solving for $f(\hat{w})$. Further, line 3 recites the phrase "based upon" which causes claim 8 to be vague and indefinite because it is unclear as to what is meant by the phrase "based upon" for characterizing "C". Clarification of the metes and bounds is required. Claim 9 is rejected for being dependent from claim 8.

RESPONSE TO ARGUEMENTS

12. Applicant argues that claim 8 has been amended "to cure this error" which is not persuasive because the instant defines T and \hat{w} individually, however, it is not clear what

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" \hat{w}^T " represents in the equation. Further, the recitation of "the variable C" does not resolve the vague and indefinite issue.

13. Specific to claim 12, beginning on line 3, the characteristic of "represents..." is cited, however, the instant claim does not define the metes and bounds of what is meant by the phrase "represents..." For example, does the phrase " fk represents the value..." mean fk is the criterion function value, a component vector, or the combination? Clarification of the metes and bounds is required. Claims 13 and 14 are rejected for being dependent from claim 12.

RESPONSE TO ARGUMENTS

14. Applicant argues that the "term 'represent' means 'to stand for' or 'to symbolize'...as in claim 12 and claims 8-9, the phrase 'x' represents a value." Applicant's argument is not persuasive because "x" is not present in claim 8, 9, or 12. Further, the instant claim does not define the metes and bounds of what is meant by the phrase "represents..." For example, does the phrase " fk represents the value..." mean fk is the criterion function value, a component vector, or the combination?

Claim Rejections - 35 USC § 112

15. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

16. Claims 1, 4-15, and 31-35 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which

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was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. NEW MATTER REJECTION.

17. This rejection is maintained with respect to claims 1 and 4-15, as recited in the previous office action, mailed June 10, 2004. The instant rejection has been extended to new claims 31-35 as necessitated by claim amendments.

RESPONSE TO ARGUMENTS

18. "Applicant maintains his response to his rejection, as outlined in the Supplementary Appeal of March 12, 2004." Applicant arguments presented in said Supplementary Appeal are not unpersuasive as discussed in the Office Action, mailed June 10, 2004. Therefore, the rejection has been maintained.

19. Specific to claim 1, line 10, the introduction of "based on preselected criteria" is considered to be new matter because it is not disclosed in the pointed support on page 40, line 21, of the specification. Claims 4-15 and 31-35 are rejected for being dependent from claim 1.

20. Specific to claim 1, line 13, the limitation of "such that the key indexes the entry for retrieval thereof" is considered to be new matter because it is not disclosed in the pointed support on page 40, line 21-26, of the specification. Claims 4-15 and 31-35 are rejected for being dependent from claim 1.

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21. Specific to claim 4, lines 2-3, the introduction of “computed from a convolution with a probe” is considered to be new matter because the phrase has not been found in the specification, as filed.

22. Claim 6, lines 5-6, recites “a ratio of variations... a discriminant criterion function” and lines 9-10, recite “a criterion function... utilizes the first data and the second data”, which have not been found in the instant specification. It is noted that pages 10-11 describes “F-distributed ratios... representing discrimination between groups of items” which is different from the new limitations. Claims 33-35 are rejected for being dependent from claim 6.

23. Claim 8, lines 4-5, the limitation of “T indicates a transpose... representing covariance” has not been found in the instant specification.

24. Claim 34, line 2, recites the limitation of “one of cross-validation... bootstrap estimates” which has not been found in the instant specification.

25. Claim 35, line 2, recites the limitation of “discriminant criterion function... bagging techniques” which has not been found in the instant specification.

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26. Claims 1, 4-15, and 31-35 are rejected under 35 U.S.C. § 101 because the claimed invention is directed to non-statutory subject matter.

27. This rejection is maintained with respect to claims 1 and 4-15, as recited in the previous office action, mailed June 10, 2004. The instant rejection has been extended to new claims 31-35 as necessitated by claim amendments.

RESPONSE TO ARGUMENT

28. “Applicant maintains his response to his rejection, as outlined in the Supplementary Appeal of March 12, 2004.” Applicant arguments presented in said Supplementary Appeal are not unpersuasive as discussed in the Office Action, mailed June 10, 2004. Therefore, the rejection has been maintained.

BASIS FOR REJECTION

29. Claims 1, 4-15 and 31-35 are rejected because said claims are directed to a method comprising steps for manipulating data without any physical alteration step, which is considered to be non-statutory subject matter. “For example, a computer process that simply calculates a mathematical algorithm that models noise is nonstatutory. However, a claimed process for digitally filtering noise employing the mathematical algorithm is statutory.”

(MPEP § 2106 (IV)(B)(2) (b), part ii). Similar to the nonstatutory example above, the instant invention comprises algorithmic steps for manipulating descriptor data without any physical alteration resulted from said manipulation steps.

30. It is acknowledged that the instant invention comprises steps for manipulating said data, however, said steps could reasonably be construed as processes performed by a data system

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and the data manipulation occurs within said system. Therefore, “such activity is not determinative of whether the process is statutory because such transformation alone does not distinguish a statutory computer process from a nonstatutory computer process” (MPEP § 2106 (IV)(B)(2) (b), part ii).

CLAIM REJECTIONS UNDER 35 U.S.C. § 102

31. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

32. Claims 1, 4, and 5 are rejected under 35 U.S.C. 102(a) and 102(e)(2) as being anticipated by Platt et al. (US PN 5,784,294A).

33. This rejection is maintained with respect to claims 1, 4, and 5 as recited in the previous office action, mailed June 10, 2004.

RESPONSE TO ARGUMENT

34. Applicant argues “Platt does not disclose the required mapping, generation of a key, or string the entry is required by amended claim 1.” It is noted that the argued limitation of

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“string” is not recited in the claims. Specific to the required limitation of mapping or generation of a key, Platt et al. discloses a set of physical attributes that describe a molecule may be determined from data representing the atomic structure of the molecule as stored in the memory. The method determines the moment of inertia of a molecule and the charge distribution of the molecule, and how these attributes can be mapped to descriptors that are used to compare molecules, for example, in 3-DQSAR calculations (column 5, lines 10-25). The method of Platt et al. is directed to first determine the attributes based on a moment of inertia and a charge distribution (preselected criteria) and secondly determines how the attributes map to vector descriptors that are used to compare molecules (column 5, lines 14-25 and 45-52). The shape and charge descriptors of the molecule may be stored in a molecular database and retrieved therefrom (column 16, lines 4-7). It is noted the key and key indexes associated with molecule stored in a molecular database are inherent features of the molecular database designed for retrieval cited below.

35. Specific to the argument that limitation of “storing”, Platt et al. discloses the shape and charge descriptors of the molecule may be stored in a molecular database and retrieved therefrom (column 16, lines 4-7).

36. Specific to the limitation of “key”, it is noted the key associated with molecule stored in a molecular database is an inherent feature of the molecular database designed for retrieval cited below.

BASIS FOR REJECTION

37. Platt et al. discloses a system and method for generating a set of attributes (entry) of a molecule derived from data representing the atomic structure of said molecule to be stored in memory (Abstract etc. and column 5, lines 11-14). For example, the IMIDAZOLE (identifier) molecule with data representing at least one region stored in memory. The data are characterized by the axis of rotation and the principal axis is determined by the weight distribution and shape of the tire/wheel combination (column 6, lines 1-67). "For the IMIDAZOLE molecule d...the coordinates of the center of dipole may be determined by adding the vector displacement d to the coordinates (column 11, lines 21-25), as in instant claim 1, lines 1-8.

38. A set of physical attributes that describe a molecule may be determined from data representing the atomic structure of the molecule as stored in the memory. The method determines the moment of inertia of a molecule and the charge distribution of the molecule, and how these attributes can be mapped to descriptors that are used to compare molecules, for example, in 3-DQSAR calculations (column 5, lines 10-25). The method of Platt et al. is directed to first determine the attributes based on moment of inertia and charge distribution (preselected criteria) and secondly determine how the attributes map to vector descriptors that are used to compare molecules (column 5, lines 14-25 and 45-52). The shape and charge descriptors of the molecule may be stored in a molecular database and retrieved therefrom (column 16, lines 4-7). It is noted the key and key indexes associated with molecule stored

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in a molecular database are inherent features of the molecular database designed for retrieval cited above, as in instant claim 1, lines 9-12.

39. The inclusion of a text reference by Ramakrishnan is not being used as prior art but only to support the inherent features of databases above that are well known in the art.

Ramakrishnan discloses that the use key and search key for index is well known in the database literature (page 72, §4.2.3, lines 1-9). Further, the key and index functions are routine features of databases in general (pages 28, 29, and 57-59).

40. The data are characterized by the axis of rotation and the principal axis is determined by the weight distribution and shape of the tire/wheel combination (column 6, lines 1-67), as in instant claim 4.

41. "The descriptors may be divided into two groups: a first group related to the inertial coordinate system defined by the inertial axes x,y,z, and a second group related to the coordinate system defined by the axes q1,q2,q3" (column 12, lines 31-36) which represent descriptor vectors, as in instant claim 5.

CONCLUSION

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42. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

43. A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

44. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to (571) 272-0547. The USPTO's official fax number is (571) 273-8300.

45. Patent applicants with problems or questions regarding electronic images that can be viewed in the Patent Application Information Retrieval system (PAIR) can now contact the USPTO's Patent Electronic Business Center (Patent EBC) for assistance. Representatives are available to answer your questions daily from 6 am to midnight (EST). The toll free number is (866) 217-9197. When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also

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check PAIR to confirm that the problem has been corrected. The USPTO's Patent Electronic Business Center is a complete service center supporting all patent business on the Internet. The USPTO's PAIR system provides Internet-based access to patent application status and history information. It also enables applicants to view the scanned images of their own application file folder(s) as well as general patent information available to the public.

46. For all other customer support, please call the USPTO Call Center (UCC) at 800-786-9199.

47. Any inquiry concerning this communication or earlier communications from the examiner should be directed to C. Dune Ly, whose telephone number is (571) 272-0716. The examiner can normally be reached on Monday-Friday from 8 A.M. to 4 P.M.

48. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ardin Marschel, Ph.D., can be reached on (571) 272-0718.

C. Dune Ly / *cm*

6/20/05

Ardin H. Marschel 6/25/05
ARDIN H. MARSCHEL
SUPERVISORY PATENT EXAMINER